
Trends and Patterns of Utah's White and Hispanic 4th Grade Students Compared to the Nation: An NAEP Achievement Gap Analysis



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June 29, 2005



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Introduction and Purpose

The National Assessment of Educational Progress (NAEP) is the only nationally representative and continuing assessment that demonstrates what America's students know and can do in various subject areas. NAEP first started tracking national performance in 1969. Beginning in 1992, NAEP conducted assessments for the individual states. A key role of NAEP is to assist in evaluating the conditions and progress of student achievement at grades 4, 8, and 12.

NAEP is the only assessment that allows comparison of results from one state with those of another, or with results for the rest of the nation. NAEP can help states answer such questions as: How does the performance of students in my state compare with the performance in other states with similar resources or students? How does my state's performance compare with the region's? Are my state's gains in student performance keeping up with the pace of improvement in other states? Although issues of similar curricula can play a role in the degree of success a state may demonstrate on NAEP regardless of the match of resources, size, etc., longitudinal data is still helpful to a state.

The current report focuses on the achievement gap at the elementary grade NAEP assesses. What exactly is an achievement gap? An achievement gap can be defined as "a persistent and pervasive disparity in student achievement among different groups of students. A gap may also be the difference between a group's current performance and a state or district standard of performance (e.g., 85% of students will be proficient)." To provide a more reliable estimate of group performance and achievement differences, group size should be 40 or higher. Based on this definition, traditional groups included in achievement gap analyses include racial/ethnic groups, socioeconomic groups, students with IEPs, and students who are English language learners (ELLs). The current report will focus on the achievement gap between Caucasian/white 4th graders and Hispanic 4th graders in reading and mathematics in Utah compared to the nation.

Data

The National Center of Educational Statistics (NCES), through the work of its test contractors, collected data between 1992 through 2003. The results in this report were first published by NCES. The NAEP reports in Reading and Math can be found at <http://nces.ed.gov/pubsearch/getpubcats.asp?sid=031>. The majority of the results were gathered using the public data available on NAEP's website at <http://nces.ed.gov/nationsreportcard/naepdata/>.

It is important to note that NAEP began allowing more accommodations throughout the 1990s for students with disabilities and English language learners (ELLs). Therefore, there were instances in which some students were allowed accommodations and other students were not. This method was used to preserve long-term trend results. Scale score results will report some of these differences.

Another key data element in which collection methods have changed is the critical area of race/ethnicity. Only recently has the primary source for reporting a student's racial/ethnic

group become school records. Depending on whether an individual uses the math or reading printed reports or public results on the NCES website, there may be slight differences in either scale score or percent proficient. The earlier reports used student self-report data. It is important that readers understand that these collection methods and accommodation policies have led to some reporting challenges.

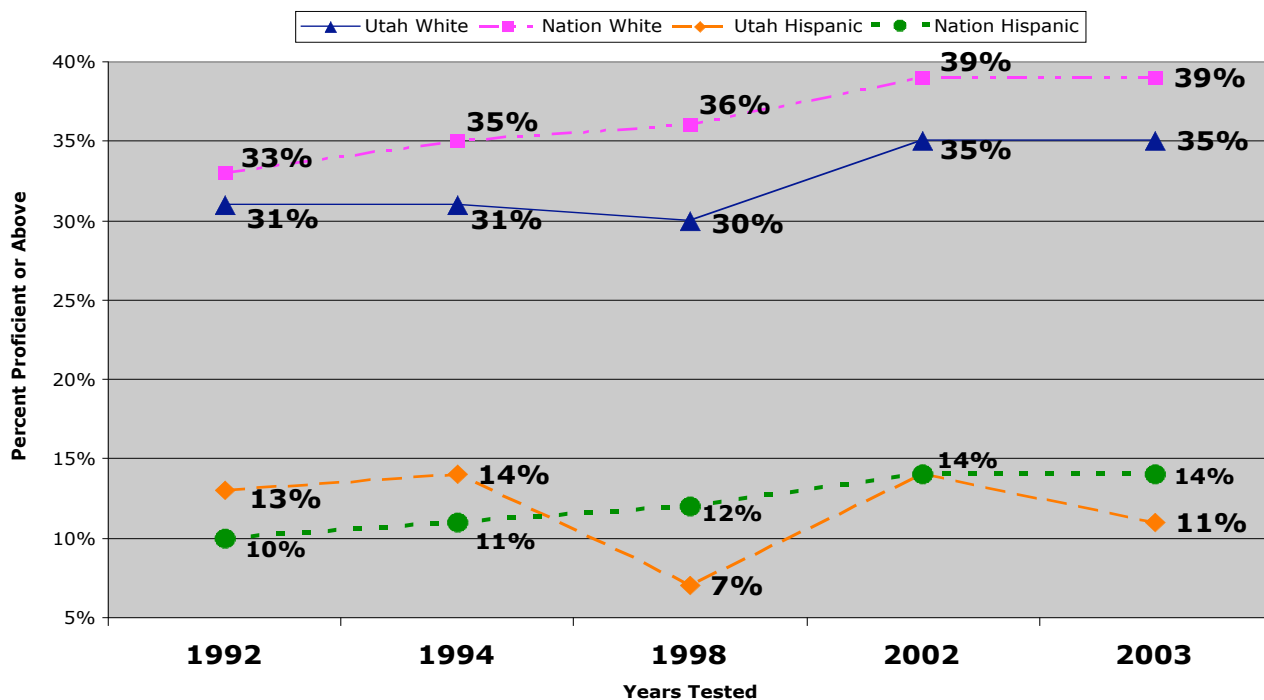
Results

Results are divided into two sections: Math and Reading. Within each section a focus will be on the percentage of students who attain Proficient or Advanced levels of performance. Throughout the report, these **combined proficiency levels will be reported as “percent proficient”** instead of percent proficient or above. This was done for ease of reading and understanding. To verify general state trends, results are also examined by average scale scores.

4th GRADE READING PROFICIENCY

Table One displays trend results for Caucasian/white students compared to Hispanic students in 4th Grade Reading in NAEP.

Table One: NAEP 4th Grade Reading: Percent Proficient (or Above) for White and Hispanic Students for Utah and the Nation



Note: No accommodations were provided to students in 1992 and 1994.

Overall, white students for both the nation and Utah have a higher percentage of students reaching the proficiency level (or advanced proficiency) from 1992 through 2003. The percent

proficient (or above) of white students across the nation has moved from 33% proficient to 39%. The percent proficient (or above) of Utah 4th grade white students has moved from 31% to 35%. For the nation the percent proficient (or above) of Hispanic students has moved from 10% to 14%. In Utah, there has been a decline in the percentage of Hispanic students proficient (or above) in reading, from 14% to 11%. Based on this proficiency data, there is an **increase** in the achievement gap for both Utah and the nation.

Table Two and Table Three display the percent proficient (or above) and the achievement gap between white and Hispanic students for Utah and neighboring western states. An analysis of neighboring states helps to facilitate comparisons of states with similar characteristics and demographics. The results for the nation are also included for an overall comparison. The data are organized as going from states with the smallest achievement gap to neighboring states with larger achievement gaps.

Table Two: NAEP 4th Grade Reading 2003: Percent Proficient and Achievement Gap Between White and Hispanic Students

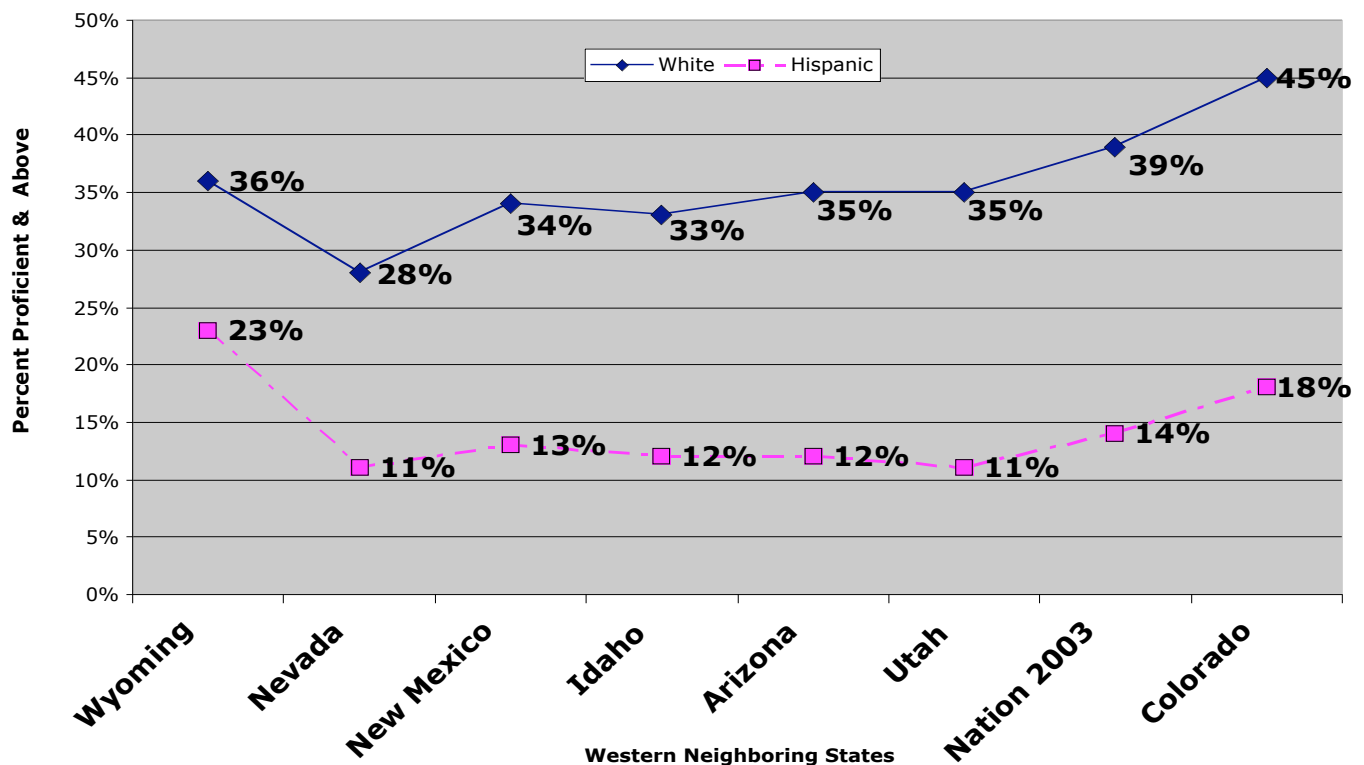
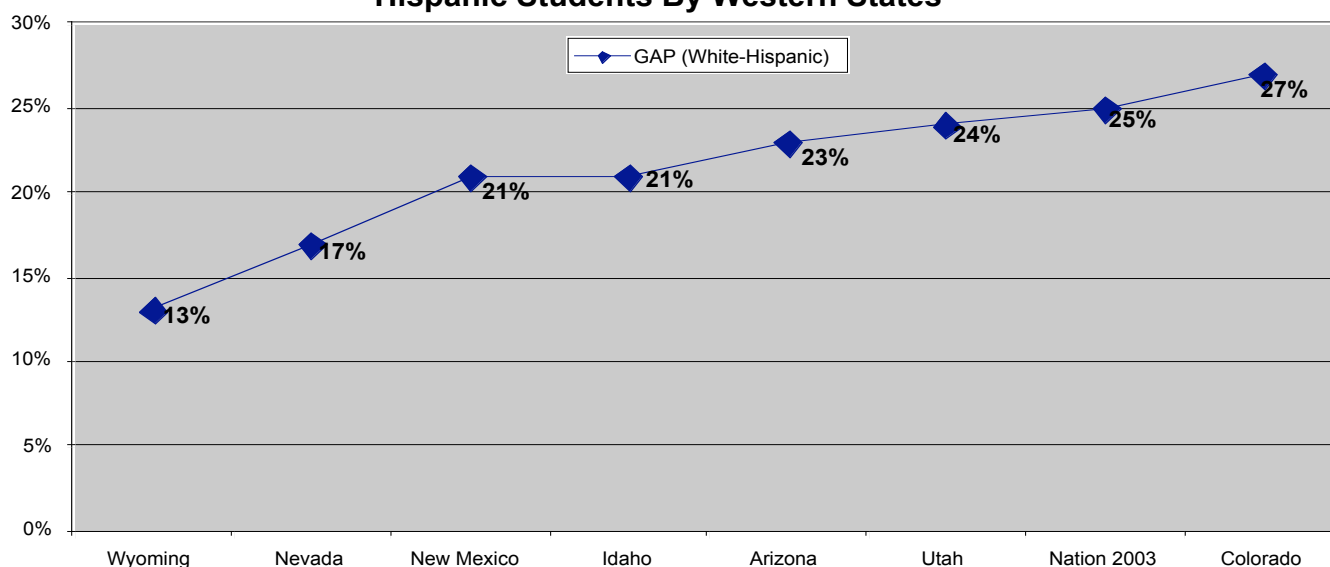


Table Three: 4th Grade Reading Gap In Percent Proficient (or Above) for White and Hispanic Students By Western States



Wyoming has the lowest achievement gap between white and Hispanic students in 4th grade reading. Colorado had the highest achievement gap (27%). Colorado has also the highest percentage of white students proficient and the second highest of Hispanic students proficient. Utah's achievement gap in the percent proficient for NAEP Reading is 24%. The western state with the lowest achievement gap in reading is Wyoming, at 13%.

READING – AVERAGE SCALE SCORE

To provide another way to understand the achievement gap in reading, Table Four displays reading results for Utah and the nation by the average scale score. The possible range of the scale score is 0 to 500.

Table Four: NAEP 4th Grade Reading Average Scale for Utah and the Nation

	Reading Scale Score					UTAH	NATION
	Year Tested	Utah White ^a	Nation White ^a	Utah Hispanic ^a	Nation Hispanic ^a	Score GAP	Score GAP
Yes Accommodations	2003	223	229	194	200	29	29
Yes Accommodations	2002	224	229	201	201	23	28
Yes Accommodations	1998	220	224	190	193	30	31
No Accommodations	1998	220	225	186	195	34	30
No Accommodations	1994	219	224	192	188	27	36
No Accommodations	1992	222	224	200	197	22	27
Scale Score Change 1998-2003		+3	+5	+4	+7	-1	-3
Scale Score Change 1992-1998		-2	+1	-14	-2	+12	+3

^a Race/ethnicity based on information from school records (supplemented in some cases by student self-reported data).

The achievement trend for white students by average scale score is consistent with percentage attaining proficient or above for Utah. The scale score change for Utah white students is +3 between 1998 and 2003. In contrast to percent proficient results, Utah Hispanic students have an increase of 4 scale score points between 1998 and 2003 in 4th grade reading. For the nation, the scale scores are also going up for white (+5) and Hispanic students (+7), and at a greater rate than these groups in Utah between 1998 and 2003.

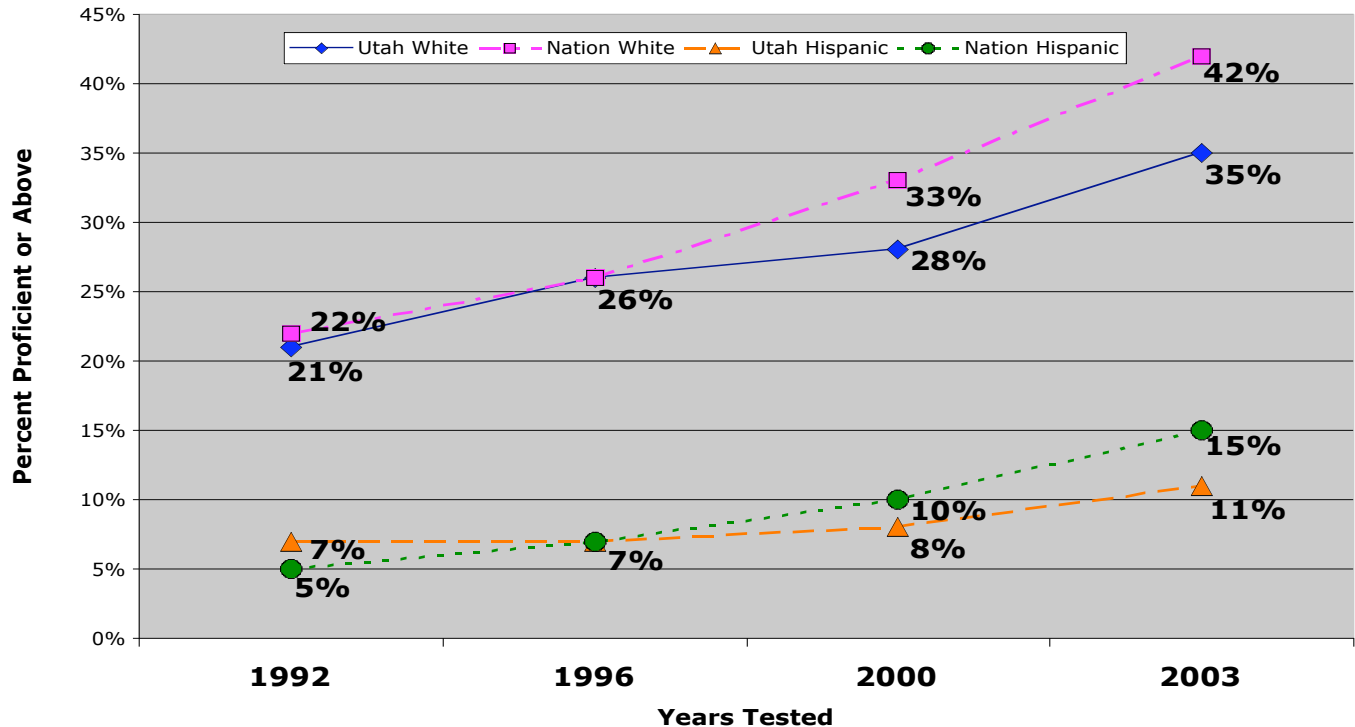
The achievement gap trend is different when looking at 4th grade reading average scale score. The achievement gap for 4th grade reading is closing from 1998 to 2003 and was increasing between 1992 and 1998. It will be of interest to see the achievement gap results that will be observed in the release of state NAEP results this fall.

For the nation, the achievement gap, according to average scale score performance, has decreased from a gap of 31 scale score points in 1998 to a gap of 29 scale score points in 2003.

4th GRADE MATH PROFICIENCY

Table Five displays trend results for Caucasian/white students compared to Hispanic students in 4th Grade Mathematics in NAEP.

Table Five: NAEP 4th Grade Math: Percent Proficient (or Above) for White and Hispanic Students for Utah and the Nation

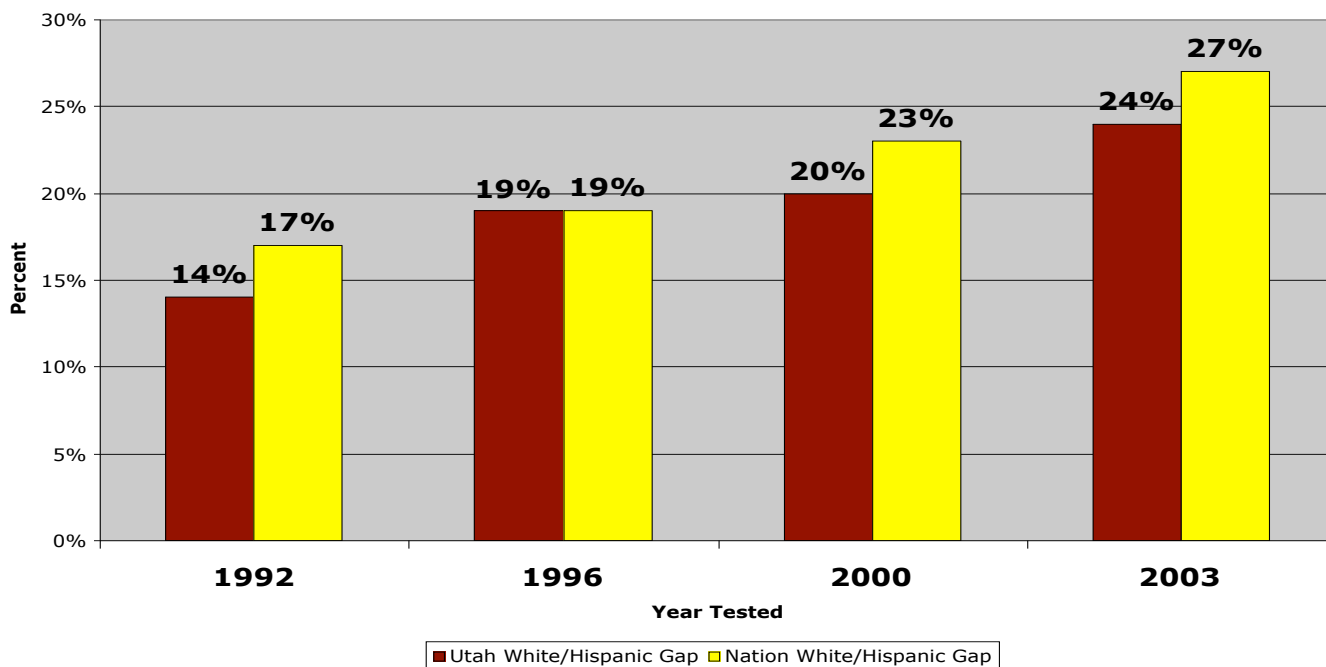


In 4th grade math there is a general trend increase in the percent of students proficient (or above) in all four groups. The largest gain in the percent proficient is that of white students across the nation. Although Utah white 4th graders are increasing in the percentage of students

proficient, it is not at the same rate of improvement as white students across the nation. Hispanic students across the nation also improved in the percent proficient from 1992 to 2003 (5% to 15%, respectively). Utah Hispanic students are improving in the percent proficient (7% to 11%), but at a lesser rate than both Hispanic students nationally and white students in the nation and Utah.

Table Seven shows the overall 4th grade achievement gap over time.

Table Six: NAEP 4th Grade Math - Achievement Gap (% White Students Proficient Minus Percent Hispanic Students Proficient)



The 4th grade math achievement gap is increasing in both Utah and the nation. In looking at Table Five and Table Six, it is apparent that the reason for the increasing achievement gap is differing rates of improvement.

Table Seven and Table Eight show the achievement gap of Utah 4th graders in math compared against neighboring western states. Although there still exist differences in some demographics and approaches to education, this provides a better comparison than using every state in the country.

Table Seven: NAEP 4th Grade Math 2003 - Percent Proficient and Achievement Gap Between White and Hispanic Students

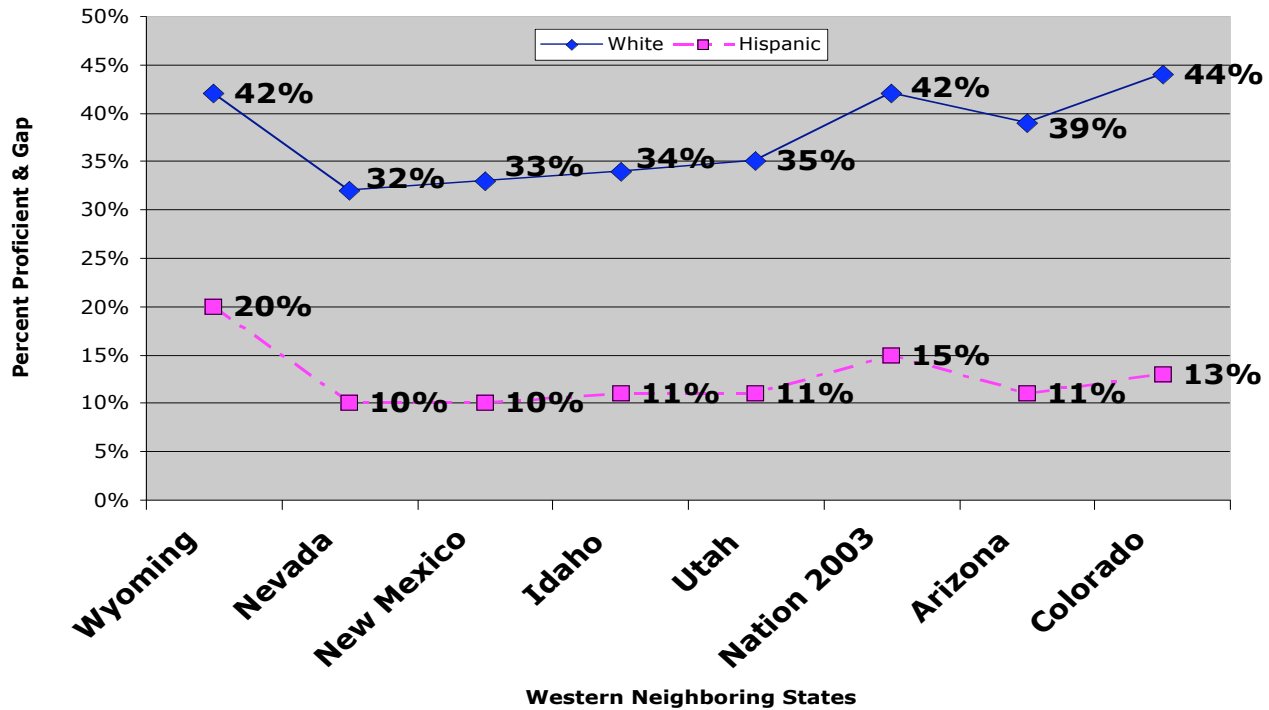
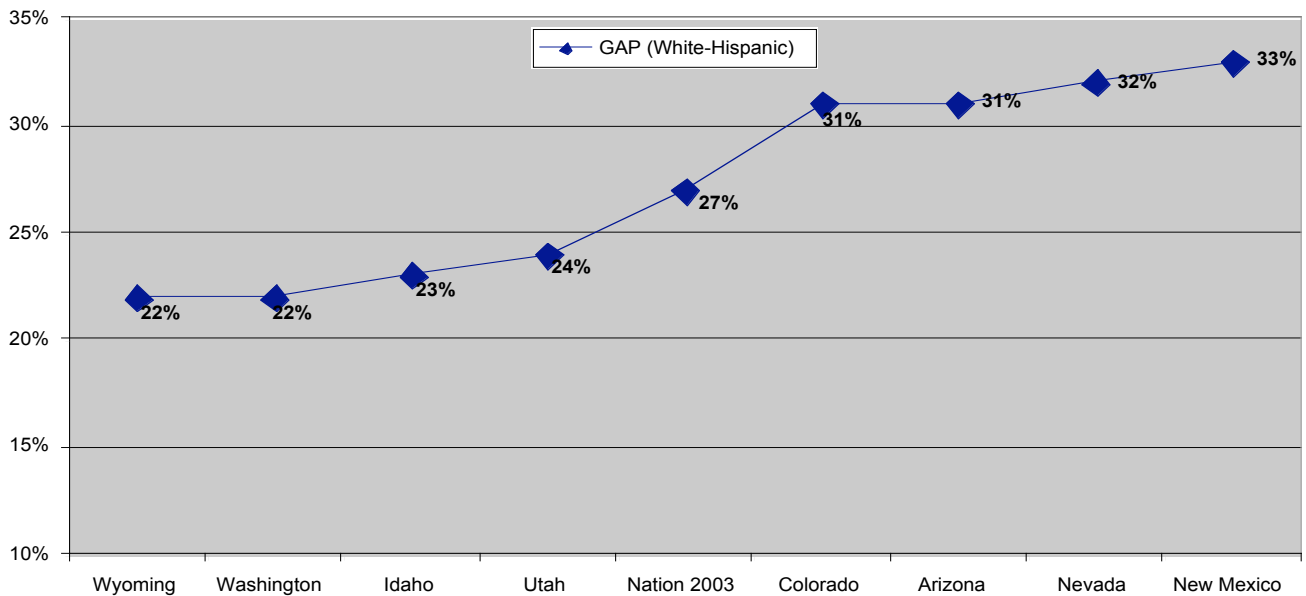


Table Eight: NAEP 4th Grade Math Achievement Gap For White and Hispanic Students



Wyoming has the lowest achievement gap between white and Hispanic students in 4th grade math (22%), and New Mexico has the highest (33%). Utah's achievement gap in the percent proficient (or above) for 4th grade math is 24%.

4th GRADE MATH AVERAGE SCALE SCORE

Table Nine displays math results for Utah and the nation by average scale score. The possible range of the scale score is 0 to 500.

Table Nine: NAEP 4th Grade Math Average Scale for Utah and the Nation 1992-2003

Scale Score by Year					UTAH	NATION
Year Tested	Utah White ^b	Nation White ^b	Utah Hispanic ^b	Nation Hispanic ^b	Score GAP	Score GAP
2003	238	243	216	222	22	22
2000	230	234	205	208	25	26
2000 ^a	230	235	204	209	26	26
1996 ^a	228	232	204	207	24	25
1992 ^a	225	227	206	202	19	25
Scale Score Change 2000-2003	+8	+9	+11	+14	-3	-4
Scale Score Change 1992-2000 ^a	+5	+9	-2	+7	+7	+1

^a No test accommodations were provided.

^b Race/ethnicity based on information from school records (supplemented in some cases by student self-reported data).

The trend by average scale score is different for the nation than results by percent proficient. The achievement gap for the nation is closing. For Utah the trend is similar to the percent proficient when examining 1992 to 2003. Overall, the achievement gap in math in Utah has increased from 19 to 22 scale score points. However, over the last three years the achievement gap has closed by 3 scale score points.

The math achievement trend for white and Hispanic students by average scale score is consistent with percentage attaining proficient or above for Utah. The scale score change from 2000 through 2003 for Utah white students is 8 scale score points' increase, and for Utah Hispanic students the increase was 11 scale score points. Both scale scores and percent proficient are increasing. For the nation, the scale scores are also going up for white (+9) and Hispanic students (+14), but at a slightly greater rate of improvement compared to Utah groups.

The achievement gap trend is similar when looking at 4th grade math average scale score for the nation. Based on an examination of average scale, the achievement gap is narrowing between whites and Hispanics nationally from 2000 to 2003 (26 to 22, respectively). This narrowing is due to the greater gain of Hispanics across the nation.

Summary

The current NAEP research report focused on the achievement gap between white 4th graders and Hispanic 4th graders in reading and mathematics in Utah compared to the nation. The majority of the analyses focused on the percentage of students who were at proficiency or above (in the advanced proficiency level), but also compared the results to average scale scores.

The following NAEP results and trends were observed when looking at performance as percentage of students reaching proficiency or higher (similar to AYP standard):

- The achievement gap for 4th graders in math and reading between white and Hispanic students has been increasing for Utah and the nation.
- In general, the increase in the achievement gap in math and reading is due to greater gains by white students across the nation and in Utah.
- White students across the nation are making greater gains than white students in Utah over the same period of time.
- In reading, there has been a decrease in the percentage of Hispanic 4th grade students reaching proficiency (or above) in Utah.
- In math, Hispanic 4th graders in Utah have made gains in the percent proficient from 1992 to 2003, but not at the same rate of improvement as Hispanics across the nation.

The following NAEP results and trends were observed when looking at average scale scores in reading and math at 4th grade:

- The average scale scores for Utah Hispanic students, Utah white students, Hispanic students across the nation, and white students across the nation have been increasing.
- Greater gains for these groups have occurred in math than in reading over a similar period of time.
- In both math and reading there are greater gains in average scale score for white and Hispanic 4th grade students nationally than white and Hispanic 4th grade students in Utah.
- In 4th grade reading, the white/Hispanic achievement gap between 1998 and 2003 narrowed slightly in Utah and has narrowed more nationally. Perhaps in part due to a smaller group size, the average scale score for Utah Hispanics has varied more than other groups from 1992 to 2003.

References

Table One

1. 2003 Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *The Nation's Report Card: Reading Highlights 2003*. Washington, DC: 2004.
2. 1992-2002 Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *NAEP State Reading 2002 Report*. Washington, DC: 2003.

Tables Two and Three

1. 2003 Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *The Nation's Report Card: Reading Highlights 2003*. Washington, DC: 2004.

Table Four

1. 1992-2003 – Public data available on NAEP's website at <http://nces.ed.gov/nationsreportcard/naepdata/>.
2. 1992-2003 – National Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *The Nation's Report Card: Reading Highlights 2003*. Washington, DC: 2004.

Tables Five and Six

1. 2003 Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *The Nation's Report Card: Math Highlights 2003*. Washington, DC: 2004.
2. 1992-2000 Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *NAEP State Math 2000 Report*. Washington, DC: 2003.

Tables Seven and Eight

1. 2003 Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *The Nation's Report Card: Math Highlights 2003*. Washington, DC: 2004.

Table Nine

1. 1992-2003 – Public data available on NAEP's website at <http://nces.ed.gov/nationsreportcard/naepdata/>.
2. 1992-2003 – National Data – U.S. Department of Education, Office of Educational Research and Improvement. National Center for Education Statistics. *The Nation's Report Card: Math Highlights 2003*. Washington, DC: 2004.